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Site Inspection Report (Phase I Investigation)

TEXAS INSTRUMENTS, INC.
Attleboro, Massachusetts

November 1985

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]



MASSACHUSETTS
FIELD INVESTIGATION TEAM



WEHRAN ENGINEERING CORP.
Engineers & Scientists
West Peabody, MA 01960

MASSACHUSETTS FIT CONTRACT

SITE INSPECTION (PHASE I INVESTIGATION) REPORT
TEXAS INSTRUMENTS, INC.
ATTLEBORO, MASSACHUSETTS

MDEQE Project Number 86-01-54-14
WE Project Number 02365276.054A-01

Wehran Task Manager - Daniel Waltz (URS)
MDEQE Task Manager - Ann Heffron

Approvals

Wehran William J. Siok, Project Manager _____

MDEQE Richard Bates, Contract Administrator _____

REPORT OUTLINE FOR SITE INVESTIGATION ACTIVITIES
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EXECUTIVE SUMMARY

At the request of the MDEQE, an inspection of the Texas Instruments, Inc. site in Attleboro, Massachusetts was conducted by URS personnel on Friday, August 23, 1985. The site facilities and surrounding grounds were inspected and photographs taken to determine and document current site conditions.

The site covers a total area of 280 acres, of which 80 acres have been developed. The developed area includes manufacturing and process facilities (metal plating and fabrication), recreational areas and associated service facilities. Surface water (Duck Pond and Cooper's Pond) covers a large part of the eastern edge of the property.

The site is located at 34 Forest Street on the northeast side of the City of Attleboro, Massachusetts. At least two spills have occurred here, one in 1957 and another in 1962. The first spill involved nitric acid dissolving a trichloroethylene feeder line which resulted in a release of the solvent. In the second spill nitric acid corroded a line from a storage tank, again resulting in a release of trichloroethylene. In both cases the amounts of the released solvent are unknown.

A number of holding ponds and lagoons have been used on the site as neutralization basins or settling ponds. Some burial of wastes has occurred on site, including the disposal of machinery contaminated with low level radioactivity. All lagoons and disposal areas have been covered and/or capped and none are in use at present. Surface water is currently being discharged into Cooper's Pond.

The site is generally flat, with elevations ranging from 120 to 130 feet above mean sea level. The overburden consists of unconsolidated glacial sediments composed primarily of sand and gravel with some till. The water table in the overburden lies ten to fifteen feet below the surface.

Groundwater monitoring wells in the overburden and bedrock have been sampled on several occasions between 1980 and 1984. Analysis has shown groundwater contamination by volatile chlorinated solvents (trichloroethylene) in concentrations of up to 240,000 parts per billion (ppb).

In connection with the site inspection, readily available data were gathered and both EPA Form 2070-13 (Site Inspection Report) and the HRS Forms were completed. HRS scoring was performed using the Mitre Model; it resulted in scores of $S_M = 52.96$, $S_{FE} = 0.0$, and $S_{DC} = 41.67$. Some of the information used in HRS scoring is of a preliminary nature, and additional investigations are needed to improve the accuracy of HRS scores.

Possible receptors of water contaminated by this site include the potable water supply wells serving the City of Attleboro (population, 34,196), and the Chartley and Borrowsville Ponds, both of which support a sport fishery. Both the water supply wells and the ponds are located within three miles of the site.

At present, Texas Instruments, Inc. has contracted a consultant who has recommended and designed groundwater collection and air stripping systems to effect site remediation. The final design of the air stripping system has been affected by a change in the emission standards set by the Commonwealth, and negotiations are continuing in order to address this issue. Texas Instruments has, moreover, reapplied for a NPDES permit and has completed a biological study of surface waters as part of the requirements to obtain this permit. Since Texas Instruments and the Commonwealth are in the process of working out a remedial plan, no further action can be recommended until the negotiations are finalized and remediation plan is defined.

1.0 SITE DESCRIPTION

The Texas Instruments, Inc., site is located at 34 Forest Street in the City of Attleboro, Massachusetts. The site covers a total area of 280 acres. Of this, eighty (80) acres have been developed to include manufacturing and process facilities, recreational areas, and associated service facilities.

Texas Instruments, Inc., carries out manufacturing and plating of metallic parts. The process involves the use of solvents and various chemicals including methanol, mineral oil, trichloroethylene, ferric chloride, sodium cyanide and anhydrous ammonia.

The site includes two capped sludge lagoons, one filled-in small caustic neutralization lagoon, one pit originally containing low level nuclear contaminated equipment, and five to six surface water discharge points. It is conceivable that some on-site landfilling of solvent waste and/or solvent-contaminated soil may have occurred in the past. Some of the surface water is discharged into Duck Pond and then into Cooper's Pond, located near the eastern edge of the property. In addition, two solvent spills are reported to have occurred at the site between 1957 and 1962.

Chemical contamination has been detected in both groundwater and surface water on site. Chlorinated volatile organic compounds (VOC's) have been detected in both shallow and deep groundwater monitoring wells penetrating both the overburden and the bedrock aquifers underlying the site. The VOCs detected in various groundwater samples include vinyl chloride, 1,2 trans- dichloroethylene, 1,1 dichloroethylene, trichloroethylene, tetrachloroethylene, 1,1,1- trichloroethane, 1,1-dichloroethane, methylene chloride, and chloroform.

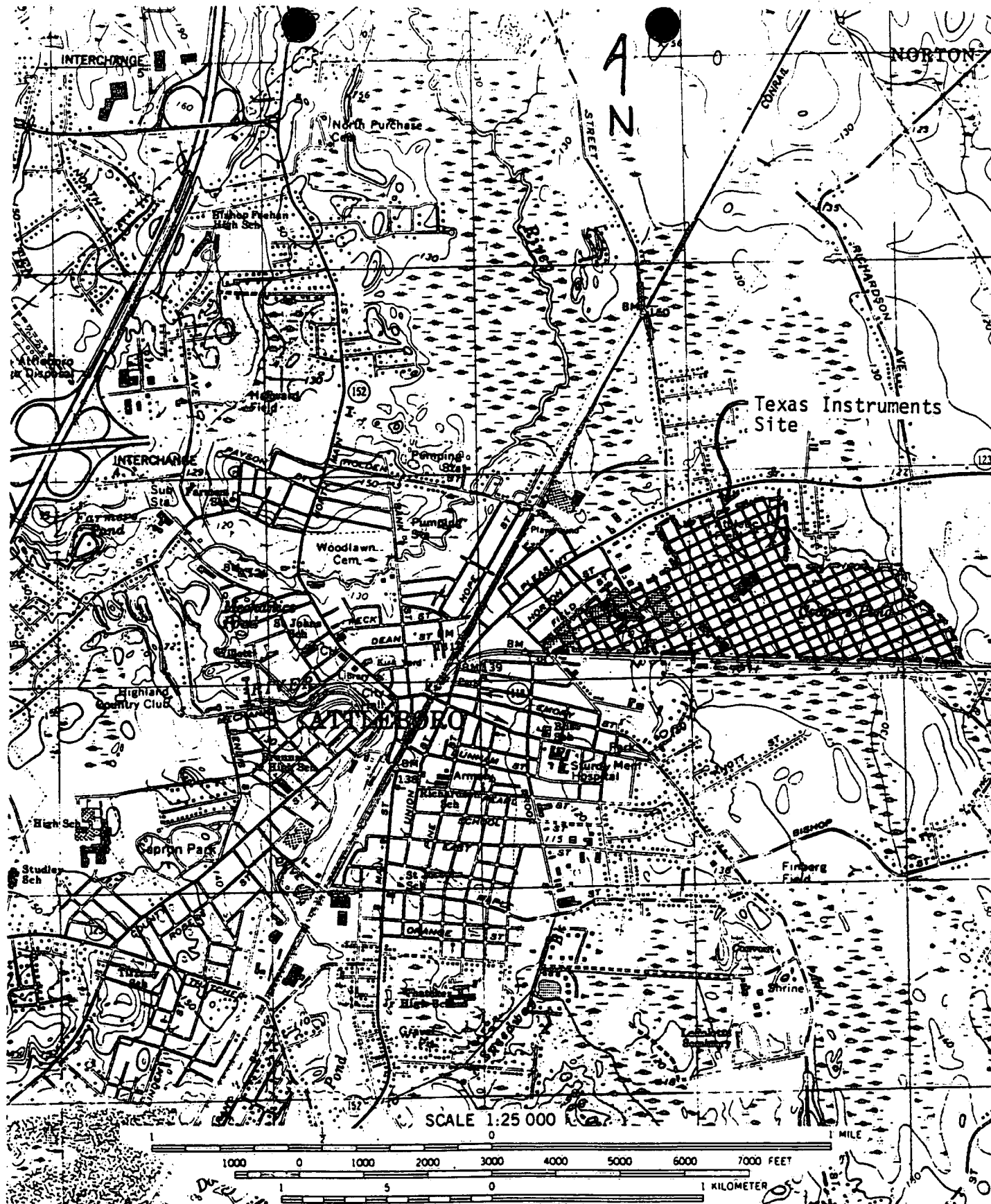
Biological studies completed on Cooper's Pond in 1983/84 indicated a potential acute toxicity problem both upstream and at the outfall. The study also showed a significantly reduced fauna as compared to the

Wading Pond control station. A bioaccumulation study of the fish captured at the pond showed a significant elevation of cadmium, copper, nickel, and silver in the fish tissues as compared to those in control sites. Finally, sediments sampled at Cooper's Pond show elevated concentrations of heavy metals such as cadmium, chromium, copper, lead, nickel, platinum, silver, tin, and zinc.

The presence of VOCs in the groundwater and the elevated concentrations of heavy metals at Cooper's Pond can be directly attributed to the activities of Texas Instruments.

2. SITE LOCATION

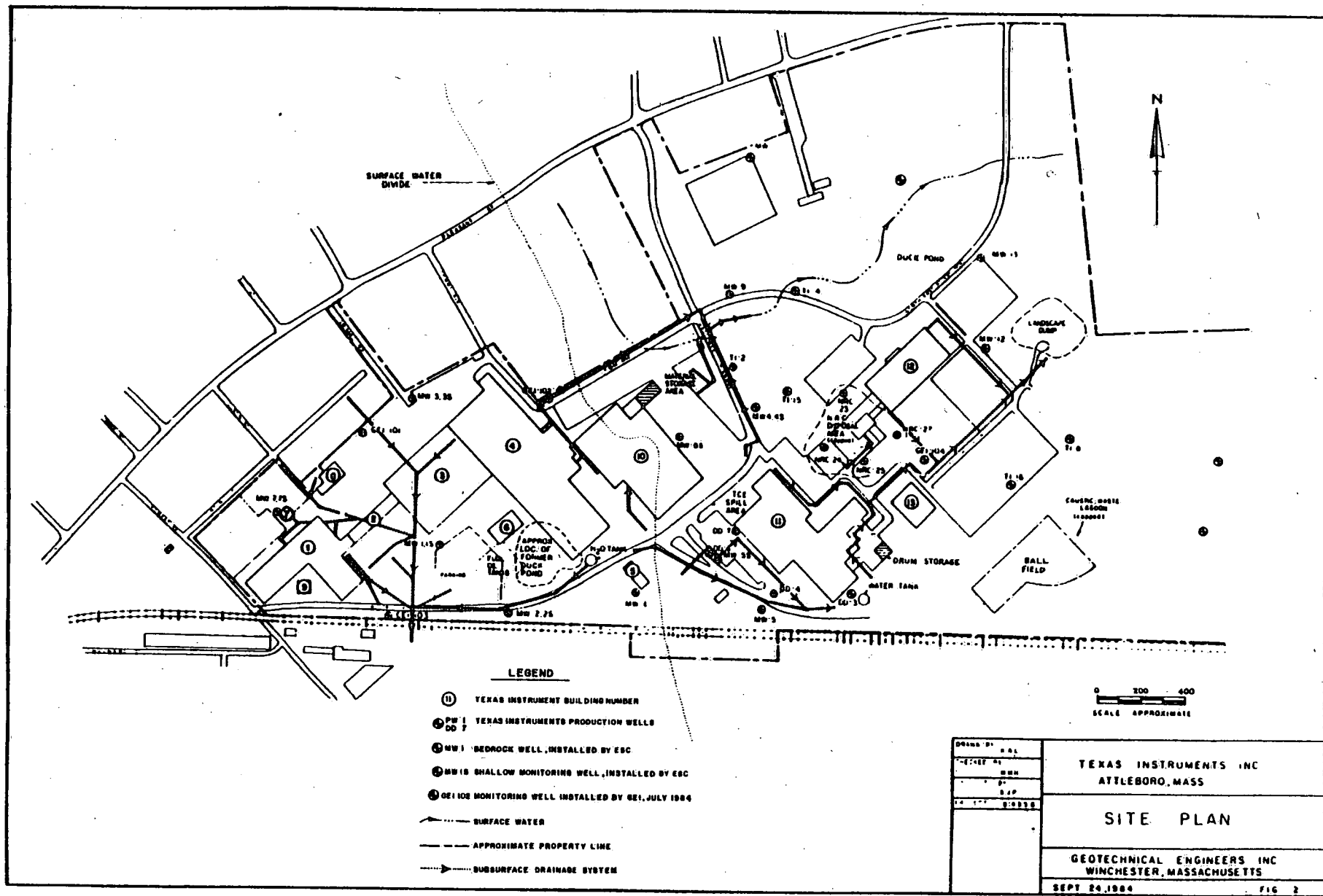
The Texas Instruments site is located within the U.S.G.S. Attleboro Quadrangle in the City of Attleboro, Massachusetts, as shown on Figure 2-1. Figure 2-2 shows the site plan, including buildings, monitoring and pumping well locations, roads, parking lots, and other key features of the site.



LOCATION MAP: Texas Instruments Site, Attleboro
MA (U.S.G.S. Attleboro Quadrangle, 7.5 minutes,
Photorevised 1979), URS Company, Inc.

FIGURE 2-1

FIGURE 2-2



3.0 SITE HISTORY

3.1 Owner History

General Plate Corporation was the first owner of the site, from 1926 to 1931. Operations at General Plate included manufacturing of metals and metal products. In 1931, General Plate merged with Spencer Thermostat of Cambridge, Massachusetts, and formed a new company called Metal and Controls Company. Metal and Controls Company operated on this site from 1931 to 1959, at which time it was purchased by Texas Instruments, Inc. Texas Instruments has owned and operated the facility since 1959 and is engaged in the manufacturing of metals and metal control devices, including plating and bonding of materials.

3.2 Spill History

According to Texas Instruments employees, there have been at least two chemical spills on the Texas Instrument site between 1957 and 1962. The first spill involved a leak from a nitric acid line, which in turn dissolved a ceramic line feeding solvent into Building 10. The spill reportedly originated near Building 10 and flowed into the original duck pond (later filled in) near Building 4. The spilled solvent was reported to be trichloroethylene; the total amount spilled was unknown. It is also unknown whether any cleanup of the spill or contaminated soil was carried out following the spill.

The second spill occurred near Building 11 in a tank and drum storage area. Overflow from a nitric acid tank corroded a line to a solvent tank containing trichloroethylene. The spill containing both nitric acid and solvent flowed onto a nearby road bed and unpaved parking area. According to representatives of Texas Instruments, contaminated soil was removed from this area and disposed of in another (unknown) location. The quantity of chemicals involved in this spill event is unknown.

3.3 Site Disposal History

Texas Instruments has also disposed of refuse and waste material on site in the past. No information is available on the type of refuse, waste material, or quantities involved.

Two sludge lagoons existed near the southeast corner of the site, southeast of Building 13, until 1981. It is reported that both sodium hydroxide and caustic sludges were deposited in these lagoons. The lagoons were closed and capped in 1981, following MDEQE requirements. The area is presently being used as an athletic field.

A small neutralization pond located east of Building 10 as shown by a 1965 aerial photograph of the site (Geotechnical Engineers, Inc., 1984) was apparently filled in at a later date. There is no physical evidence of this pond at the present time.

A pit used to dispose of equipment contaminated by low-level radioactivity (located east of Building 10), was covered some time during the 1970s. Previously contaminated soil may also have been disposed of in this area. During the 1970s, when a buried pipeline was laid through the disposal area, buried contaminated machinery and metallic parts were removed. This location is referred to as the NRC disposal area, and four (4) NRC monitoring wells have been installed to monitor groundwater conditions near the disposal pit.

4.0 ENVIRONMENTAL SETTING

4.1 Site Topography

The Texas Instruments site is relatively flat, gradually sloping to the east and southeast. Local topographic highs are located to the west, southwest, south, and southeast of the property with the elevation of the site varying between 120 and 130 feet above mean sea level. A 10-15 foot high railroad berm forms the site's southern boundary. Surface water generally drains to the east and northeast, towards Cooper's Pond and the feeder stream northwest of Cooper's Pond.

4.2 Site Geology

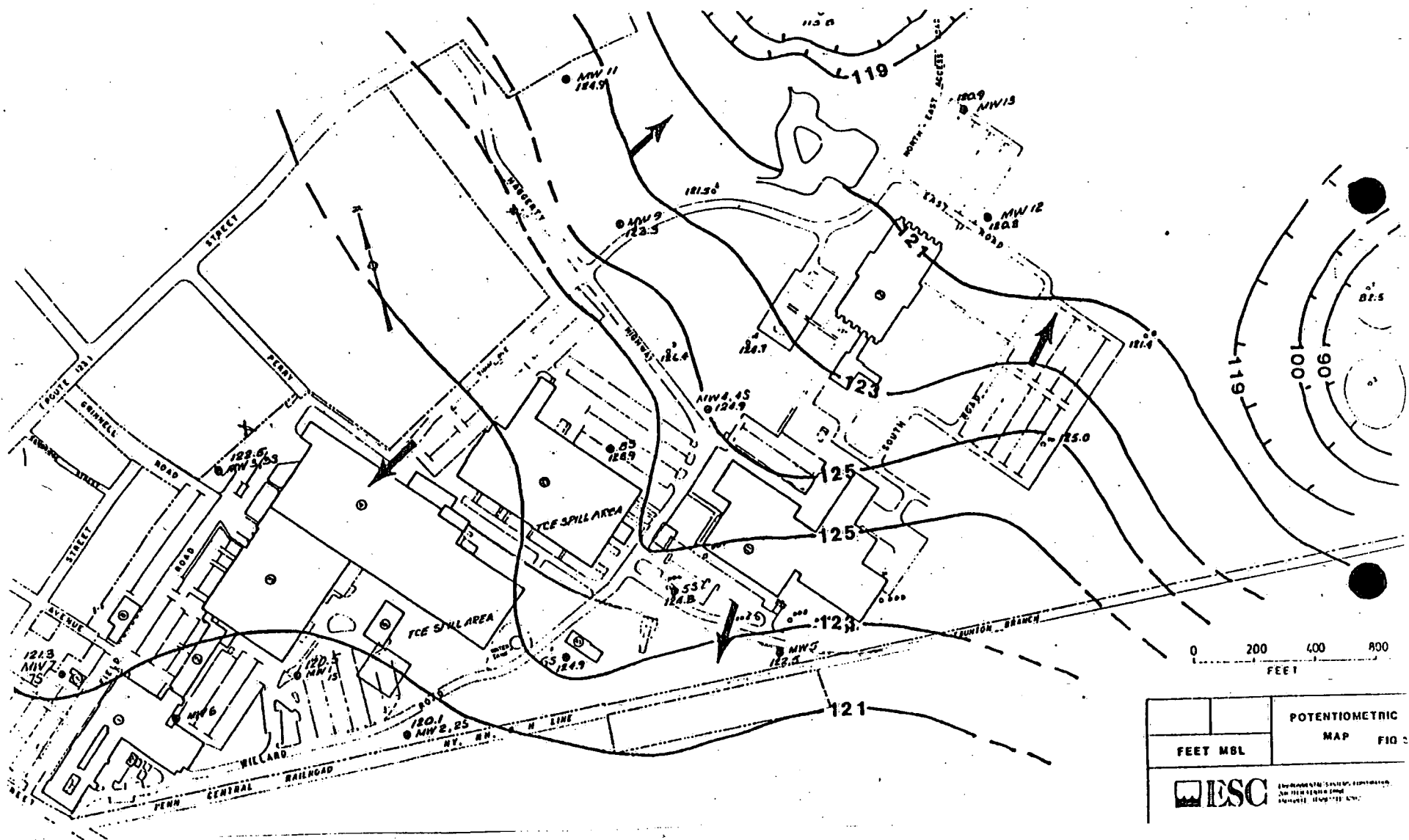
The surficial geology at the site is described (Geotechnical Engineers, Inc. 1984) to consist of unconsolidated glacial sediments ranging in thickness from 5 to 45 feet. These glacial sediments reportedly consist of sand and sandy gravel, although there is also some till located in the site area. Eastern portions of the area originally had wetlands and peat formations. Some of the peat was removed before construction, and fill and an underground drain were later added.

The bedrock geology of the site is described to consist of interbedded sandstone, shale, and conglomerates from the late Pennsylvania age Rhode Island formation. No bedrock outcrops are present on or near the site. The site is located near the northern end of a northeast-southwest trending syncline, known as the Attleboro Syncline. This syncline lies in the northwest section of a regional structure known as the Narragansett Basin.

4.3 Site Hydrogeology

A site groundwater table map for the overburden aquifer (reproduced from reference 3) is presented on Figure 4-1. The map shows a

Figure 4-1 Potentiometric Surface Map (ESC, 1984)



groundwater divide near Building 11 and northeast of Building 10. From this divide, water flows both northeast and southwest. According to Reference 3, the groundwater divide in the bedrock aquifer is centered near Building 10. The bedrock groundwater flow directions are described as being similar to the overburden aquifer flow directions. Texas Instruments has production wells in the bedrock aquifer in the northern and eastern area of the site and these wells may exert an influence on the groundwater flow direction.

East of the groundwater divide, the vertical distance between the piezometric surface in the bedrock and the overburden reaches 4 feet (Ref. 3), indicating a downward vertical hydraulic gradient between the overburden aquifer and the bedrock aquifer. This suggests that the bedrock aquifer may be recharged by the shallow overburden aquifer. The area west of the surface water divide is described to show little head difference between the overburden and the bedrock aquifer water levels. There are no production wells west of the groundwater divide.

4.4 Past Sampling and Analysis Programs

Groundwater at the Texas Instruments site has been sampled numerous times between 1980 and 1984. The samples have been collected by Texas Instruments, Geotechnical Engineers, Inc., and Environmental Systems Corporation. Analytical results for VOCs indicate concentrations of up to 240,000 ppb at the site. The most recent sampling by Geotechnical Engineers (1984) resulted in the detection of the following chlorinated volatile organic compounds:

<u>Compound</u>	<u>Maximum Detected Level (ppb)</u>
Vinyl chloride	440
1,2, trans-dichloroethylene	69,000
1,1, dichloroethylene	480
Trichloroethylene	240,000
Tetrachloroethylene	8,800
1,1,1-trichloroethane	650
1,1-dichloroethane	230
Methylene chloride	14
Chloroform	110

The evaluation of sampling data from shallow wells indicates that contamination in the unconsolidated overburden is widespread across the site. Groundwater collected from wells penetrating the bedrock aquifer also shows contamination by chlorinated VOCs.

Surface water samples were collected by Geotechnical Engineers and Environmental Systems both on site and in adjacent areas, and chlorinated VOCs were detected in these samples. Previous investigations have shown accumulations of heavy metals such as cadmium, copper, chromium, lead, nickel, platinum silver, tin and zinc in both sediment and fish from Cooper's Pond.

Cooper's Pond has previously been described as highly eutrophic, containing colored and turbid water, covered at times with duckweed and filamentous algae. A biological study of Cooper's Pond showed a reduced fauna compared to the Wading Pond control station. Also, only pollution-tolerant taxa were found downstream of Cooper's Pond by Massachusetts DEQE in August 1984.

5.0 CONCLUSIONS

Controlled and uncontrolled releases of chemical contaminants into the environment have been documented at the Texas Instruments, Inc. site. These releases have occurred both in the surface water and groundwater systems. Two consultants, (Environmental Systems Corporation and Geotechnical Engineers, Inc.) have conducted sampling and analysis programs which demonstrate that both the overburden and bedrock aquifers have been contaminated with chlorinated volatile organic compounds. A toxicological and biological evaluation of Coopers Pond by Enviro Systems Inc. has revealed the presence of heavy metals both in the sediment and fish tissues. This study also showed that Coopers Pond seems to contain a reduced population of insect larvae and other taxa, possibly resulting from the heavy metals contamination. The heavy metals identified can be directly related to Texas Instruments processes and surface water discharges.

Texas Instruments has taken numerous steps to control releases to the environment. During the 1970s, radioactive contaminated machinery was removed from the disposal pit southeast of Building 12. A NPDES permit was granted in 1977 for surface water discharges and is currently going through the renewal process. The two sludge lagoons were closed and capped in 1981 following MDEQE guidelines. Also, Texas Instruments has contracted with two consultants to design and implement a groundwater remediation plan to include the installation of recovery wells and an air stripping system. No groundwater remediation effort has been implemented as yet and Texas Instruments is presently negotiating with the MDEQE toward development of a remediation program.

6.0 RECOMMENDATIONS

Presently Texas Instruments is working with MDEQE to implement various remedial plans at the site. No additional action is recommended until the remediation plan is approved and implementation begins. Should MDEQE require assistance during review, approval and implementation of the remediation program, the MASSFIT contractor stands ready to provide the required technical assistance.

8.0 USEPA SITE INSPECTION REPORT 2070-13

The completed USEPA Form 2070-13, "Potential Hazardous Waste Site, Site Inspection Report" is included in this report and is located immediately following this page.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
MA 007325814

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) TEXAS INSTRUMENTS, INC.		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER 34 Forest Street			
03 CITY Attleboro		04 STATE Ma.	05 ZIP CODE 02703	06 COUNTY Bristol	07 COUNTY CODE 08 CONG DIST
09 COORDINATES LATITUDE 42° 56' 5.18" N LONGITUDE 071° 16' 11.5" W		10 TYPE OF OWNERSHIP (Check one) <input checked="" type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN			

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 8 / 23 / 85 MONTH DAY YEAR	02 SITE STATUS <input checked="" type="checkbox"/> ACTIVE <input type="checkbox"/> INACTIVE	03 YEARS OF OPERATION 1959 Present BEGINNING YEAR ENDING YEAR	
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input type="checkbox"/> B. EPA CONTRACTOR <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input type="checkbox"/> E. STATE <input checked="" type="checkbox"/> F. STATE CONTRACTOR Wehran Engr. Corp. <input type="checkbox"/> G. OTHER (Specify)			

05 CHIEF INSPECTOR Daniel P. Waltz	06 TITLE Hydrogeologist	07 ORGANIZATION URS, CO., Inc.	08 TELEPHONE NO. 617/535-7880
09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO. ()
			()
			()
			()
			()
			()

13 SITE REPRESENTATIVES INTERVIEWED Debbie Avey	14 TITLE Environ. Engr.	15 ADDRESS Texas Instruments Environmental Engineering	16 TELEPHONE NO. 617/699-1798
Bill Sangoi	Chief Opr.	Waste Treatment Facility	617/690-3597
Don Mikutel	Facilities Opr.	Chemical Control/Stores	617/699-1402
Mark DeSantis	Group Leader	" " "	(") Same
Francis J. Veale, Jr.	Manager	Environmental Engineering	617/6991798
			()

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT	18 TIME OF INSPECTION 1000	19 WEATHER CONDITIONS Hot - Clear (75° - 80°)
-----------------------------------------------------------------------------------------------------------------------	-------------------------------	--------------------------------------------------

IV. INFORMATION AVAILABLE FROM

01 CONTACT Ann Heffron	02 OF (Agency/Organization) Mass. Dept. of Environ. Quality Engr.		03 TELEPHONE NO. 617 727-1440
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Daniel P. Waltz	05 AGENCY -	06 ORGANIZATION URS, COMPANY	07 TELEPHONE NO. (617)535-7880
			08 DATE 8 / 23 / 85 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
MA 007325814

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) <input type="checkbox"/> A. SOLID <input type="checkbox"/> B. POWDER, FINES <input checked="" type="checkbox"/> C. SLUDGE <input type="checkbox"/> D. OTHER _____ (Specify) <input type="checkbox"/> E. SLURRY <input checked="" type="checkbox"/> F. LIQUID <input type="checkbox"/> G. GAS	02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent) TONS _____ CUBIC YARDS <u>9,000</u> NO. OF DRUMS <u>5-6,000 Gal.</u>	03 WASTE CHARACTERISTICS (Check all that apply) <input checked="" type="checkbox"/> A. TOXIC <input type="checkbox"/> B. CORROSIVE <input checked="" type="checkbox"/> C. RADIOACTIVE <input checked="" type="checkbox"/> D. PERSISTENT <input type="checkbox"/> E. SOLUBLE <input type="checkbox"/> F. INFECTIOUS <input type="checkbox"/> G. FLAMMABLE <input type="checkbox"/> H. IGNITABLE <input checked="" type="checkbox"/> I. HIGHLY VOLATILE <input type="checkbox"/> J. EXPLOSIVE <input type="checkbox"/> K. REACTIVE <input type="checkbox"/> L. INCOMPATIBLE <input type="checkbox"/> M. NOT APPLICABLE
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE	9,000	C Y	Disposed in 2 lagoons
OLW	OILY WASTE			
SOL	SOLVENTS	5-6,000	gallons	1,1,1-Trichloroethylene, tank leak
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS	Unknown	Unknown	Mineral Oil
IOC	INORGANIC CHEMICALS	Unknown	Unknown	Cyanide
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
SOL	1,2 Trans-Dichloroethylene	156605	Unknown	Unknown	
	LOW level Nuclear Wastes		Disposal pit	Unknown	Unknown
MES	Chromium	7440-47-3	Surface Impoundment	0.04	mg/l
MES	Cadmium	7440-43-9	S I / Surface Discharge	0.02	mg/l
MES	Lead	7439-92-1	S I / SD	0.02	mg/l
MES	Copper	7440-50-8	S I / SD	Unknown	Unknown
MES	Nickel	7440-02-0	S I / SD	Unknown	Unknown
MES	Zinc	7440-66-6	S I / SD	Unknown	Unknown
SOL	Vinyl Chloride	75014	Unknown	Unknown	Unknown
SOL	1,1Dichloroethylene	75354	Unknown	Unknown	Unknown
OCC	Cyanide	-	S I / SD	Unknown	Unknown
SOL	Trichloroethylene	79016	Tanks	Unknown	Unknown
SOL	Tetrachloroethylene	127184	Unknown	Unknown	Unknown
SOL	1,1,1-Trichloroethane	71556	Unknown	Unknown	Unknown
SOL	Methylene Chloride	75092	Unknown	Unknown	Unknown
SOL	Chloroform	67663	Unknown	Unknown	Unknown

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Tom Plant, NUS Corp., Bedford, Ma.
2. Francis J. Veale, Texas Instruments Inc. Attleboro, Ma.
3. Burdon Blanchard, Water Dept. Attleboro, Ma.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
MAD 007325814

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A. GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE: Fall/1982) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 34,196 04 NARRATIVE DESCRIPTION

Results from laboratory testing of groundwater sample from monitoring well
T.I.-15, (Fall of 1982).

01 ☒ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE: 12/84) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 12,726 04 NARRATIVE DESCRIPTION

Accumulation of heavy metals in pond sediment (Cooper's Pond) as a result of
point discharges evidenced by Bio-assay. in December, 1984 (Texas Instruments,
Inc. Report by Environ. Systems Inc., Hampton Falls, N.H.)

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☒ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE: 1959 & 1962) ☐ POTENTIAL ☒ ALLEGED
03 AREA POTENTIALLY AFFECTED: 1 04 NARRATIVE DESCRIPTION
(Acres)

A leak of solvents from two spills, one near building #10 (1957) and the other
near building #11 (1962)

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
MAD 007325814

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ I. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☒ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (include names of species)

02 ☒ OBSERVED (DATE: 12/84) ☐ POTENTIAL ☐ ALLEGED

Toxicological/Biological Evaluation for Texas Instruments (Cooper's Pond), Acute Bioassays and Biological survey by Enviro. Systems, Inc. Hampton Falls, N.H.. Summary: Significant reduction in invertebrate population compared to Wading River.

01 ☐ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Spills, Runoff, Standing liquids, Leaking drums)

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____) ☐ POTENTIAL ☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

1. Allegedly low-level nuclear waste disposal of in pit near building #12 location.
2. Disposal of sludge in two lagoons (now covered) underneath the new ballfield (1958-1973?)
3. Surficial dumping of unknown debris near production wells #T-7 and T-3.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 46,922

IV. COMMENTS

1. Discolored soil was noted along service road between new ballfield and monitoring well No. T-7 (soil had unusual dark red/maroon coloring).

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Ann Heffron, MDEQE Lakeville, MA
2. Veronica Harrington, U.S. EPA, Boston, MA
3. Debbie Arey & Francis J. Veale, Texas Instruments Inc., Attleboro, MA



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION
01 STATE MAD 02 SITE NUMBER 007325814

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input checked="" type="checkbox"/> A. NPDES	MAD 00791	July/1977	July/1982	Applied for new permit
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input checked="" type="checkbox"/> D. RCRA	MAD 00732814	5/10/67		
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input checked="" type="checkbox"/> F. SPCC PLAN		1981		Updated - 5/15/85
<input checked="" type="checkbox"/> G. STATE (Specify)				See Comments
<input checked="" type="checkbox"/> H. LOCAL (Specify)				See Comments
<input checked="" type="checkbox"/> I. OTHER (Specify)	No. 23	1955	Present	requesting release of permit from AEC/NRC
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input checked="" type="checkbox"/> A. SURFACE IMPOUNDMENT	9,000	CY	<input type="checkbox"/> A. INCENERATION	<input checked="" type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input checked="" type="checkbox"/> C. CHEMICAL/PHYSICAL	14
<input checked="" type="checkbox"/> D. TANK, ABOVE GROUND	19 tanks/ 19,150*gallons		<input type="checkbox"/> D. BIOLOGICAL	06 AREA OF SITE
<input checked="" type="checkbox"/> E. TANK, BELOW GROUND	6 tanks/338,500*gallons		<input type="checkbox"/> E. WASTE OIL PROCESSING	280 (Acres)
<input checked="" type="checkbox"/> F. LANDFILL	Unknown	Unknown	<input type="checkbox"/> F. SOLVENT RECOVERY	
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING RECOVERY	
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

1. 14 permitted smoke stacks (registered every year) - (Mass. permit)
2. (AP-1) fuel burning registration (Mass. Permit)
3. (AP-2) process manufacturing (Mass. Permit)
4. (AP-4) VOC/storage (Mass. Permit)
5. (AP-5) VOC/Useage (Mass. Permit)
6. Meets City of Attleboro pre-treatment guidelines for sanitary sewer discharge

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check all that apply)

☐ A. ADEQUATE, SECURE ☒ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC

1. Empty drums are stored in various locations on site. However, drums containing waste are removed within 90 days (Texas Instrument's policy).

* Volume is based on capacity of tanks (02-amount)

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE ☐ YES ☒ NO

02 COMMENTS

VI. SOURCES OF INFORMATION (Check specific references, e.g., site files, sampling analysis, etc.)

1. Debbie Arey, Texas Instruments Inc., Attleboro, MA
2. Francis J. Veale, Texas Instruments Inc., Attleboro MA
3. Veronica Harrington, U.S. EPA, Boston, MA



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
MAD | 007325814

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check as applicable)

SURFACE WELL

COMMUNITY

A. ☒

B. ☒

NON-COMMUNITY

C. ☐

D. ☐

02 STATUS

ENDANGERED

A. ☐

D. ☐

AFFECTED

B. ☐

E. ☐

MONITORED

C. ☒

F. ☐

03 DISTANCE TO SITE

A. 2.1/3.7 (mi)

B. _____ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING

☒ B. DRINKING
(Other sources available)

COMMERCIAL, INDUSTRIAL, IRRIGATION
(No other water sources available)

☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION
(Limited other sources available)

☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER

34,196

03 DISTANCE TO NEAREST DRINKING WATER WELL 0.7 (mi)

04 DEPTH TO GROUNDWATER

5-8 (ft)

05 DIRECTION OF GROUNDWATER FLOW

South, Southeast

06 DEPTH TO AQUIFER
OF CONCERN

5-6 (ft)

07 POTENTIAL YIELD
OF AQUIFER

unknown (gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

1. Wading Pond: Modified Ranney-type infiltration gallery/2 wells, total= 2-2.5 mgd
2. Orr's Pond wellfield: 16 wells and surface water infiltration program
3. Back-up wells: 3 wells (water has poor quality)

10 RECHARGE AREA

☒ YES

COMMENTS Local recharge area (however
it is very near fresh water wet-
lands which are discharge areas).

☐ NO

11 DISCHARGE AREA

☒ YES

COMMENTS The eastern portion of the
property includes wetlands near Cooper's
Pond.

☐ NO

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☒ A. RESERVOIR, RECREATION
DRINKING WATER SOURCE

☐ B. IRRIGATION, ECONOMICALLY
IMPORTANT RESOURCES

☐ C. COMMERCIAL, INDUSTRIAL

☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:

AFFECTED

DISTANCE TO SITE

Orr's Pond - 16 pumping wells

3.3 - SW (mi)

Manchester Reservoir

2.1 - West (mi)

Wading River - 2 pumping wells (Ranney collector type)

3.7 - North (mi)

Back Up Wells

0.7 - West/NW (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE

A. 17,089
NO. OF PERSONS

TWO (2) MILES OF SITE

B. 30,776
NO. OF PERSONS

THREE (3) MILES OF SITE

C. 36,000
NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

< 0.1 (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

All of the City of Attleboro

04 DISTANCE TO NEAREST OFF-SITE BUILDING

< 0.1 (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural village or suburban urban area)

Densely populated area to the west and southwest of the site.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
MAD 007325814

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. $10^{-8} - 10^{-6}$ cm/sec ☐ B. $10^{-4} - 10^{-6}$ cm/sec ☒ C. $10^{-4} - 10^{-3}$ cm/sec (estimated) ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-4} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-2} - 10^{-4}$ cm/sec) (estimated) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK

25-30 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

25-30 (ft)

05 SOIL pH

Unknown

06 NET PRECIPITATION

17.98 (in)

07 ONE YEAR 24 HOUR RAINFALL

2.5 (in)

08 SLOPE

SITE SLOPE
1-2 %

DIRECTION OF SITE SLOPE
West to East

TERRAIN AVERAGE SLOPE
1-2 %

09 FLOOD POTENTIAL

portions of site are in
SITE IS IN 100 YEAR FLOODPLAIN

10

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE

OTHER

A. (mi)

B. 0.3 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

(mi)

ENDANGERED SPECIES: None known

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS: NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

A. < 0.1 (mi)

B. < 0.1 (mi)

C. (mi) D. (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The site is in a relatively flat area with very slight slope from West to East.

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Mary J. Cressman & Donald J. Smyth, Planning and Land Use, City of Attleboro, Ma.
2. Burdon H. Blanchard, Assistant Supervisor, City of Attleboro, Ma.
3. Debbie Arey and Francis J. Veale, Texas Instruments, Inc. Attleboro, Ma.
4. U.S.G.S., Attleboro Quadrangle Topographic Map.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
MAD 007325814

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER		No samples collected during this Site	
SURFACE WATER		Inspection.	
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL			
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
	No field measurements taken during this site inspection.

IV. PHOTOGRAPHS AND MAPS

01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF <u>Daniel P. Waltz, IIRS Company, Inc</u> <small>(Name of organization or individual)</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS <u>IIRS COMPANY, INC, 83 Pine Street, W. Peabody, Ma 01960</u>

V. OTHER FIELD DATA COLLECTED (Provide narrative description) VISUAL INSPECTION OF COOPERS POND AND DUCK POND

1. Cooper's Pond-Water had a greenish-yellow color (probably a result of an algal bloom) and excessive duck weed (possible evidence of excess nutrients entering the pond).
2. Duck Pond-water also had greenish-yellow color and exhibits evidence of excess nutrients (causing algal bloom).
3. Vadose zone monitoring-During the inspection it was noticed that around several monitoring wells 2 or 3 small (<1 inch) diameter PVC pipes were sticking out of the ground near the well. A T.I. employee mentioned that an experimental program of air monitoring of the vadose zone near selected monitoring wells was being undertaken.

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports) at the present time.

1. U.S.G.S. Attleboro Quadrangle Topographic Map
2. Ground photographs taken by inspector during site inspection.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
MAD 007325814

II. CURRENT OWNER(S)

PARENT COMPANY (If applicable)

01 NAME TEXAS INSTRUMENTS, INC.		02 D+B NUMBER		08 NAME N/A		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 34 Forest Street		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY Attleboro		06 STATE Ma.	07 ZIP CODE 02703	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE
01 NAME		02 D+B NUMBER		08 NAME		09 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		10 STREET ADDRESS (P.O. Box, RFD #, etc.)		11 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	12 CITY		13 STATE	14 ZIP CODE

III. PREVIOUS OWNER(S) (List most recent first)

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME METALS & CONTROLS (1931)		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 34 Forest Street		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY Attleboro		06 STATE Ma.	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME GENERAL PLATE CORPORATION		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 34 Forest Street		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY Attleboro moved in 1926 (1916)		06 STATE Ma.	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	05 CITY		06 STATE	07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
MAD 007325814

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
TEXAS INSTRUMENTS, INC.				N/A			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
34 Forest Street							
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
Attleboro		MA	02703				
08 YEARS OF OPERATION		09 NAME OF OWNER					
1959-present		Same					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
Metals and Controls				General Plate Corporation & Spencer Thermostat merger			
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
34 Forest Street							
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
Attleboro		MA		Spencer/Thermo/Cambridge		MA	
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
1931-1959		Same					
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
General Plate Corporation							
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
34 Forest Street							
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
Attleboro		MA					
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
1926-1931		Same					
01 NAME		02 D+8 NUMBER		10 NAME		11 D+8 NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, records)							



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
MAD 007325814

II. ON-SITE GENERATOR

01 NAME TEXAS INSTRUMENTS, INC.	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.) 34 Forest Street	04 SIC CODE
05 CITY Attleboro	06 STATE 07 ZIP CODE MA 02703

III. OFF-SITE GENERATOR(S)

01 NAME Unknown	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME Unknown	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

1. Texas Instruments Inc., Attleboro, MA



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
MAD 007325814

II. PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input checked="" type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION Disposal of materials in 2 sludge lagoons and 1 low level nuclear waste disposal pit.	02 DATE <u>Unknown</u>	03 AGENCY <u>Texas Instruments, Inc</u>
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DIKING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MAD	007325814

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☒ S. CAPPING/COVERING
04 DESCRIPTION

02 DATE April/May 1981 03 AGENCY Texas Instruments, Inc.

2 Sludge lagoons were covered and closed following MDEOE requirements

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ W. GAS CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☒ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

1. Future installation of recovery well system and water treatment (air-stripping) to be installed by Texas Instruments, Inc. near the TCE spill location on site.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Debbie Arey and Francis J. Veale, Texas Instruments, Inc. Attleboro, MA
2. Ann Heffron, MDEQE, Lakeville, MA
3. Veronica Harrington, U.S.EPA, Boston, MA
4. Tom Plant, NUS Corporation, Bedford, MA



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
MAD	007325814

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION


1. RCRA/NPDES permit for point discharge at 6 locations on site (#MA0001791).
2. MDEQE requirements followed for closure of two sludge lagoons, April - May, 1981.
3. Notification of Hazardous activity by Texas Instruments, Inc. - MAD980667 82.
4. Texas Instruments Inc. must meet City of Attleboro pre-treatment guidelines for discharge to sanitary sewers.

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

1. Veronica Harrington, USEPA, Boston, MA
2. Ann Heffron, MDEQE, Lakeville, MA.
3. Debbie Arey, Texas Instruments, Inc. Attleboro, MA

APPENDIX A

TASK ASSIGNMENT DOCUMENT (TAD)

Account No. 56-01-54-14		MASSACHUSETTS EIT CONTRACT TASK ASSIGNMENT DOCUMENT (TAD)		5. EPA No. MAD 007325614		6. Completion Date 9-15-85	
Estimated Hours		4. Site Name Texas Instruments 34 Forest St. Attleboro MA		7. Priority <input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low		8. Reference Info. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Attached <input checked="" type="checkbox"/> Pick up	
Estimated Cost		General Task Description: Conduct a Site Inspection on subject company. Site is currently in remediation and therefore no sampling required. If directed to do so by Task Mgr., visit site in order to update locus map, photograph site and discuss recent performance of remedial action. All necessary information for the SI report should be in the DEQE files. Report should conform to the draft Work & Cost Plan for Site Inspections.					
10. Specific Elements: See Work & Cost Plan.						11. Interim Deadlines	
12. Comments:							
13. Report Format: Formal Report <input checked="" type="checkbox"/> Letter Report <input type="checkbox"/> Formal Briefing <input type="checkbox"/> Other (specify):							
14. DEQE Site/Task Manager Anne Heffron						15. Region/Office Southeast	
16. Authorized By  (DEQE Contract Administrator Signature)						17. Date 8-7-85	
18. Received By: (Contractor PM Signature)						19. Date	

APPENDIX B

CORRESPONDENCE

MEMORANDUM

TO: Ann Heffron, MDEQE/Lakeville
FROM: Dan Waltz, URS/W. Peabody
DATE: August 20, 1985
RE: Meeting on August 14, 1985 about Texas Instruments Site
(Attleboro, MA)

The following points were discussed during my meeting with Ann Heffron (MDEQE/Lakeville).

1. A letter report format would be adequate for the report on the site inspection activities.
2. There will be no need for the assessment of data during the site inspection.
3. There will also be no need for a Phase II Work & Cost Plan. The owner of the site is already involved with remedial activities on the site (ie. recovery wells and water treatment) and therefore there will be no need for Phase II activities by the Mass FIT contractor.
4. Although there was some discussion concerning the necessity of a site visit the writer has decided to make a site visit as part of the process for gathering information to complete EPA form 2070-13, Site Inspection Report form.

Dan

Daniel P. Waltz,
Hydrogeologist

DPW/cm

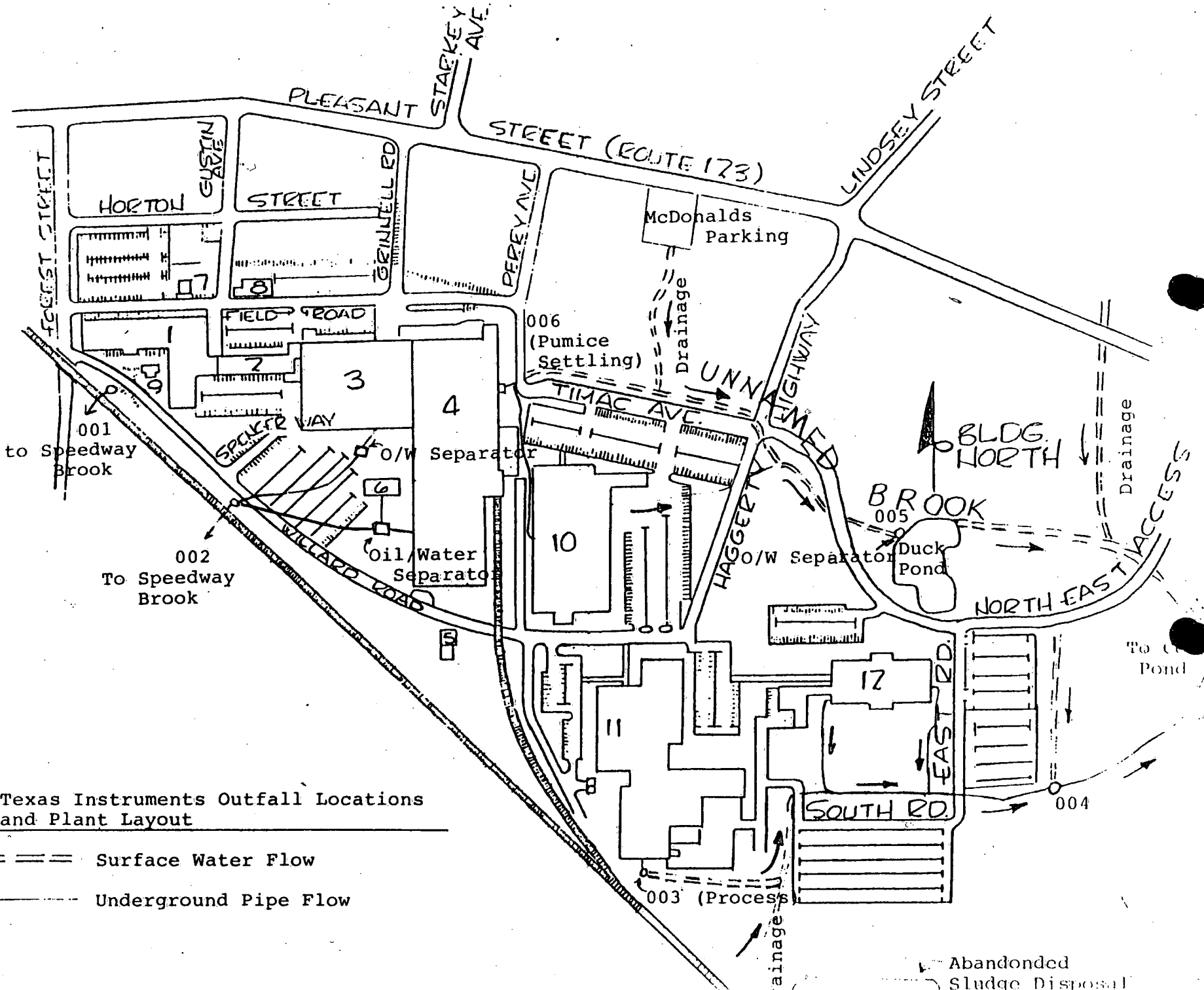
CC: Tom Schlessner, WE
John Gorton, URS

APPENDIX C
REFERENCES

REFERENCES

1. "Phase I, Review of Data and Preliminary Modeling of Contaminants in Groundwater of Texas Instruments, Inc. of Attleboro, Massachusetts", by Environmental Systems Corporation, Knoxville, Tennessee, October 24, 1983.
2. Results and Recommendations of the Groundwater Assessments at Texas Instruments, Inc., Attleboro, Massachusetts", by Environmental Systems Corporation, Knoxville, Tennessee, February 17, 1984.
3. "Supplementary Hydrogeologic Assessment and Recommendations for Remedial Action, Texas Instruments, Inc., Attleboro, Massachusetts", by Geotechnical Engineers, Inc., Winchester, Massachusetts, September 26, 1984.
4. "Toxicological/Biological Evaluation for Texas Instruments, Interim Report II, Acute Bioassays and Biological Surveys", by Enviro Systems, Inc., Hampton Falls, New Hampshire, December, 1984.

APPENDIX D
SITE PHOTOGRAPHS



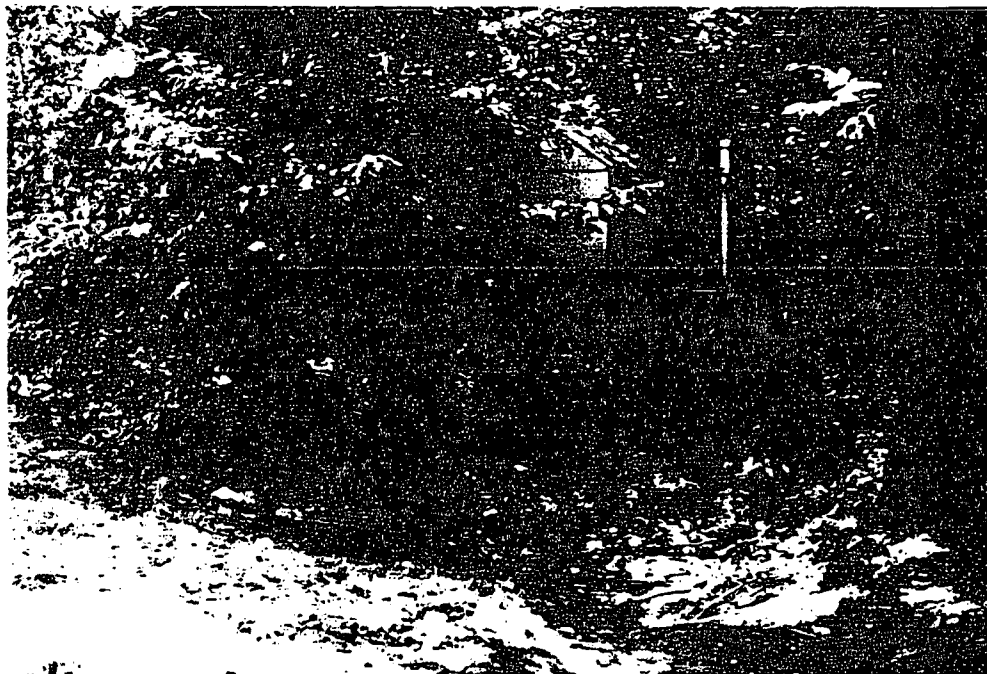
Texas Instruments Outfall Locations and Plant Layout

==== Surface Water Flow
 ——— Underground Pipe Flow

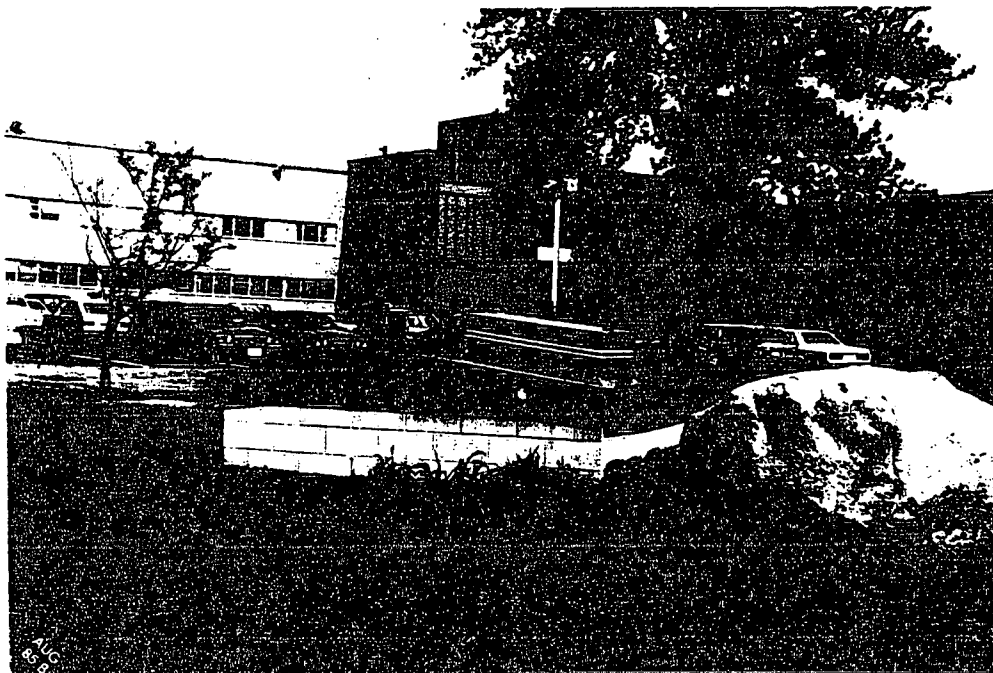
Abandoned Sludge Disposal



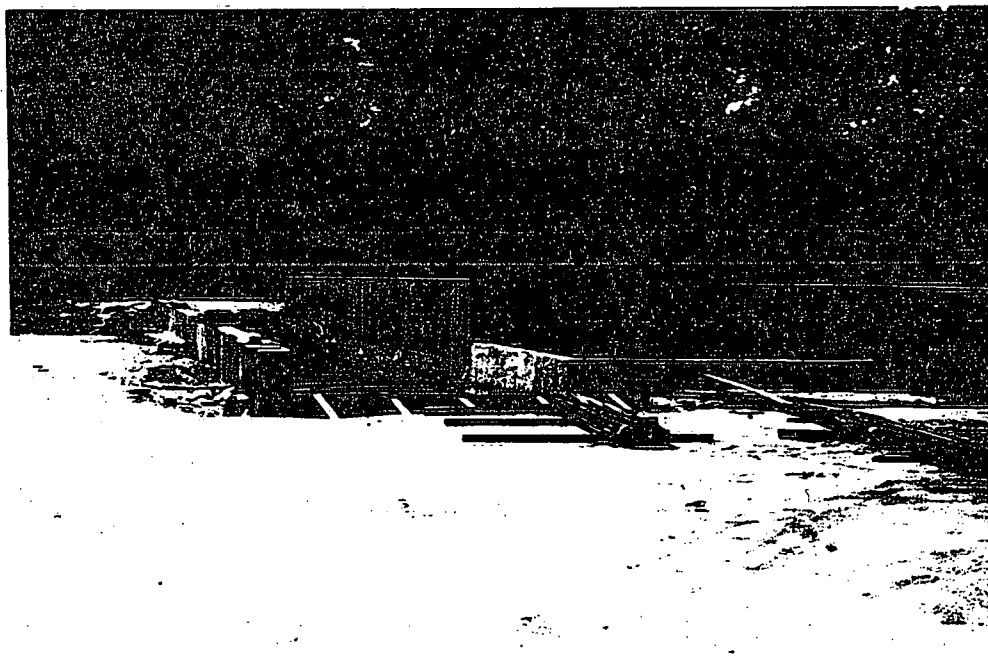
Photograph #1: Surface Discharge (001) to Speedway Brook (Grating in Road, Building No. 1 in Background).



Photograph #2: Surface Discharge (002) to Speedway Brook (Grating in ground, looking towards railroad berm, automatic water sampler in background is no longer used).



Photograph #3: Oil/Water separator in foreground, water goes towards Surface Discharge- 002 (Building Nos. 3 and 4 in background).



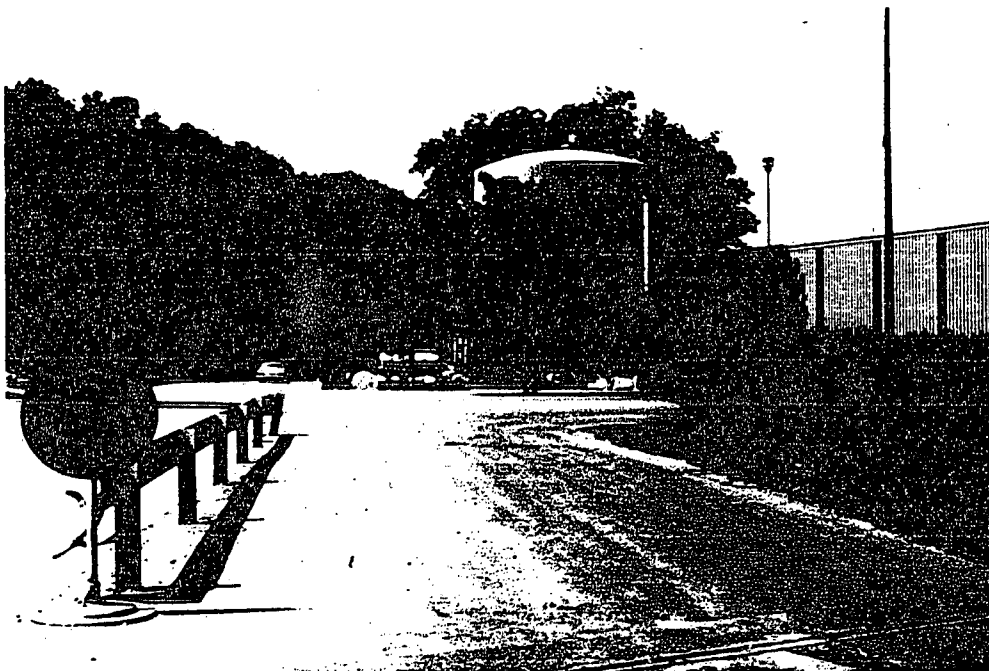
Photograph #4: New aboveground fuel oil spill prevention building on old duck pond location (looking towards railroad berm).



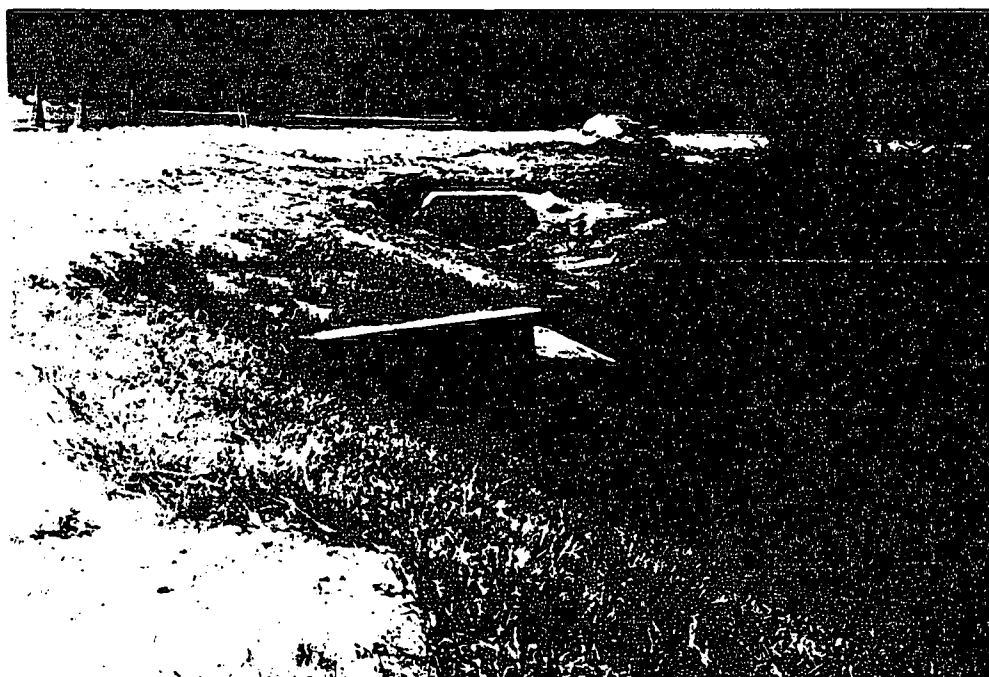
Photograph #5: Location of old underground fuel oil tank. Tank has been emptied and filled with sand (looking towards Building No. 4).



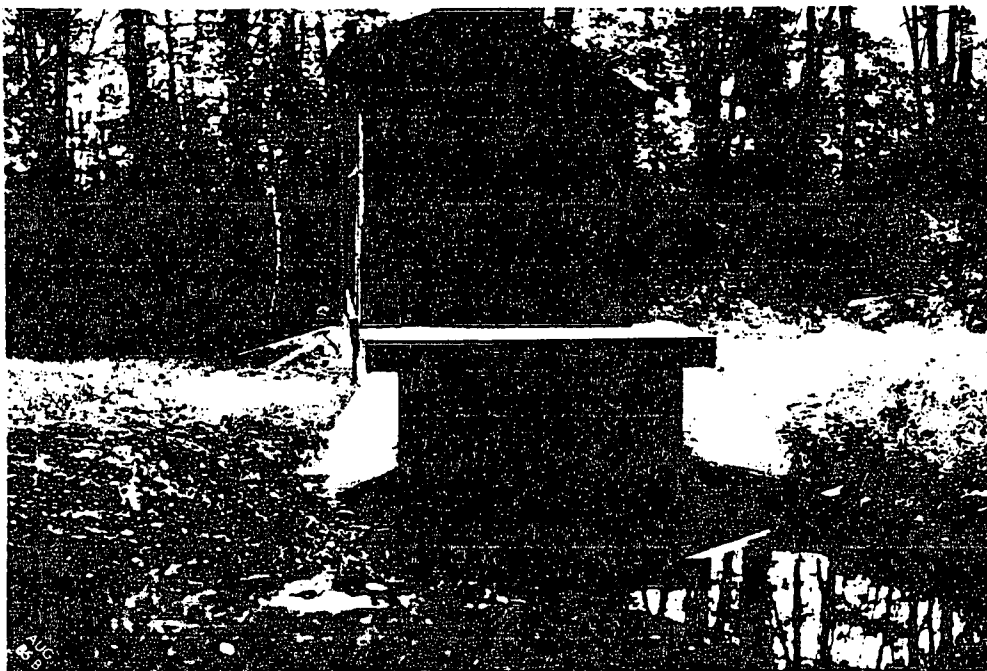
Photograph #6: Monitoring Wells 1 and 1s, Building No. 3 in background (Note: small white pipes behind furthest well in front of larger rock, are for Vadose Zone air monitoring). This is the possible location for a recovery well system installation.



Photograph #7: Unsecured 55 gallon drums behind Building No. 4, water storage tank in background. (Red/white drums will contain precious metals waste, other drums will contain metal scraps).



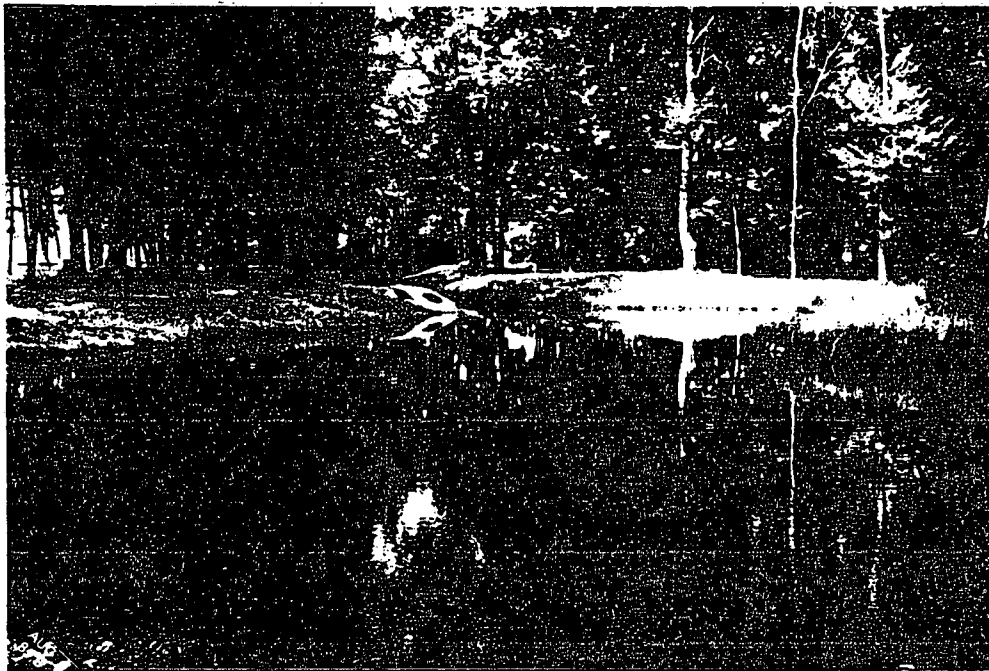
Photograph #8: Surface discharge (005) outfall flowing towards New Duck Pond (northeast access road in background).



Photograph #9: Automatic water sampler shed located along creek before water reaches New Duck Pond (from surface discharge-005).



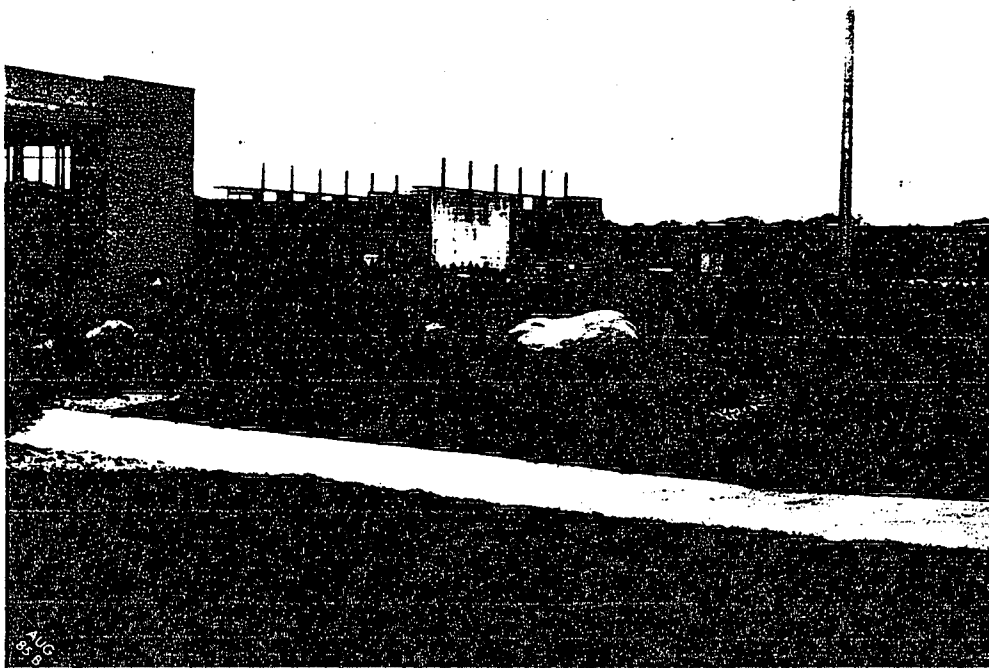
Photograph #10: Looking down creek towards New Duck Pond (eastern view).



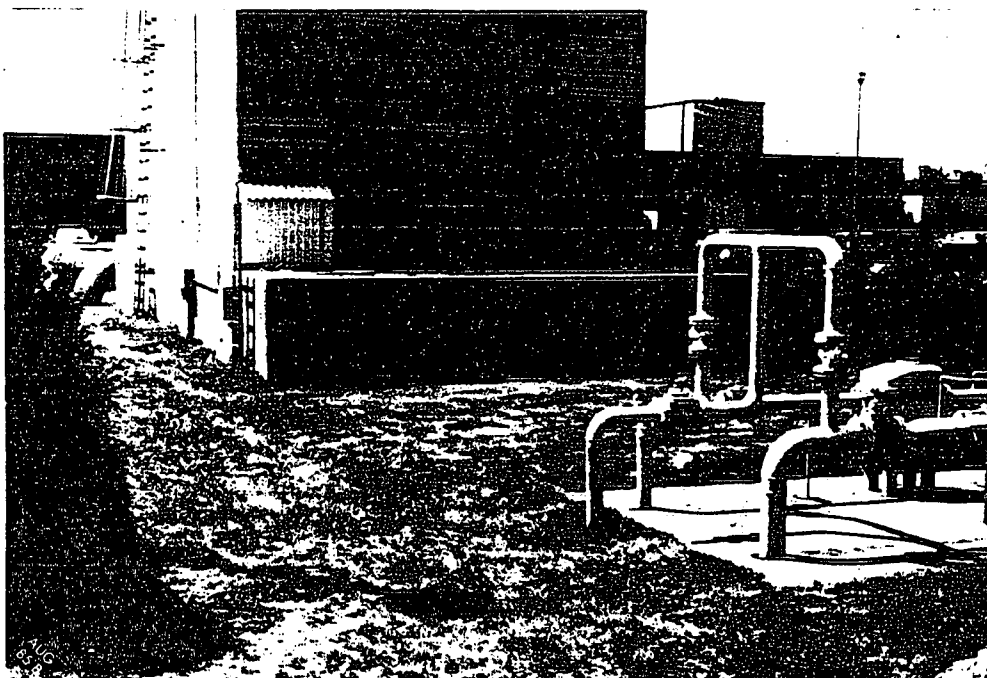
Photograph #11: New Duck Pond, looking upstream towards automatic water sampler shed (western view).



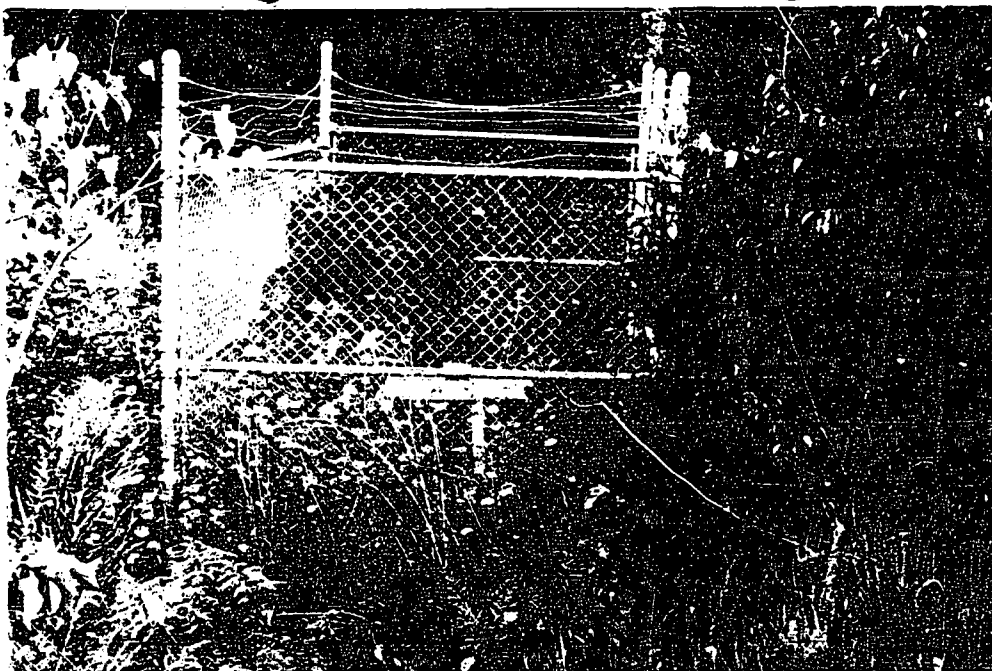
Photograph #12: New fuel oil spill prevention building being constructed above old NRC Disposal Area (Building No. 12 on left-hand side, Building No. 11 at right center, looking south).



Photograph #13: The northern portion of the old NRC Disposal Area (Building No. 12 on left-hand side, Building No. 11 in background, looking southeast).



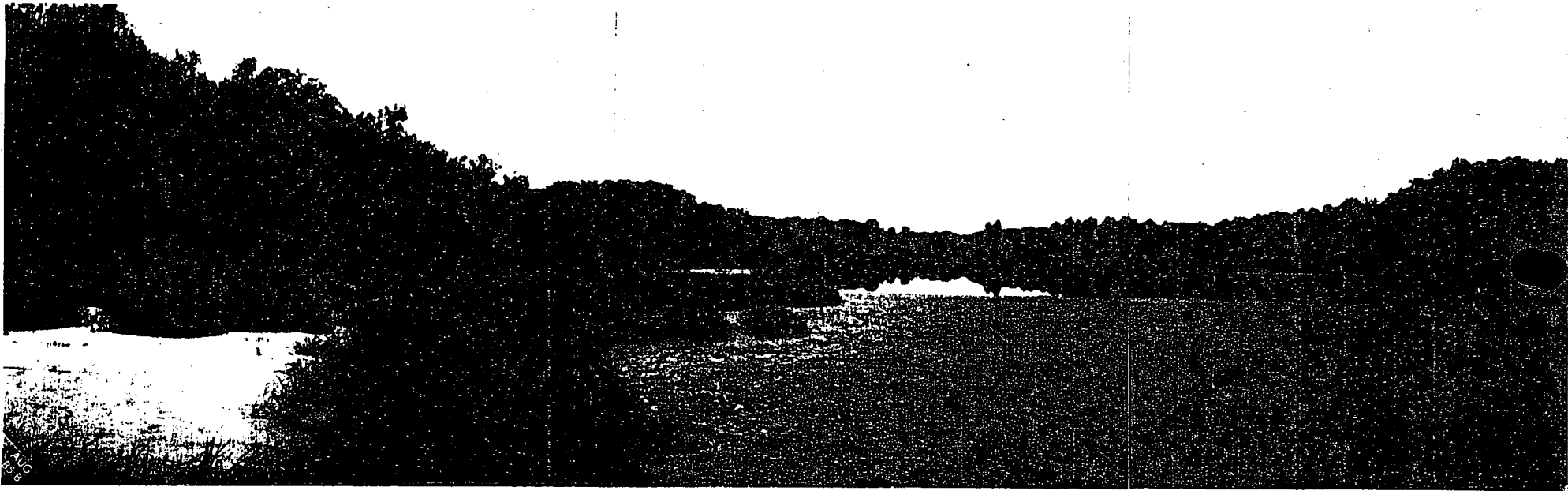
Photograph #14: Surface Discharge (004) from cooling towers, outlet is underground (Building No. 11 in background, Building No. 10 in far right side).



Photograph #15: Surface Discharge (004) Water Sampling station, automatic sampler no longer used (eastern corner of parking lot, looking east away from Building No. 12).



Photograph #15A: Southern outfall from Cooper's Pond (railroad berm in background).



Photographs #16, 17, 18: Panoramic view of Cooper's Pond, looking northwest, showing duck weed and filamentous algae floating on top of water.



Photographs #19 & 20: The rest of the panoramic view of Cooper's Pond, looking north and northeast, showing duck weed and filamentous algae floating on top of water.



Photographs #21 & 22: Panoramic view of athletic ball field, built above old capped sludge lagoons(looking north).



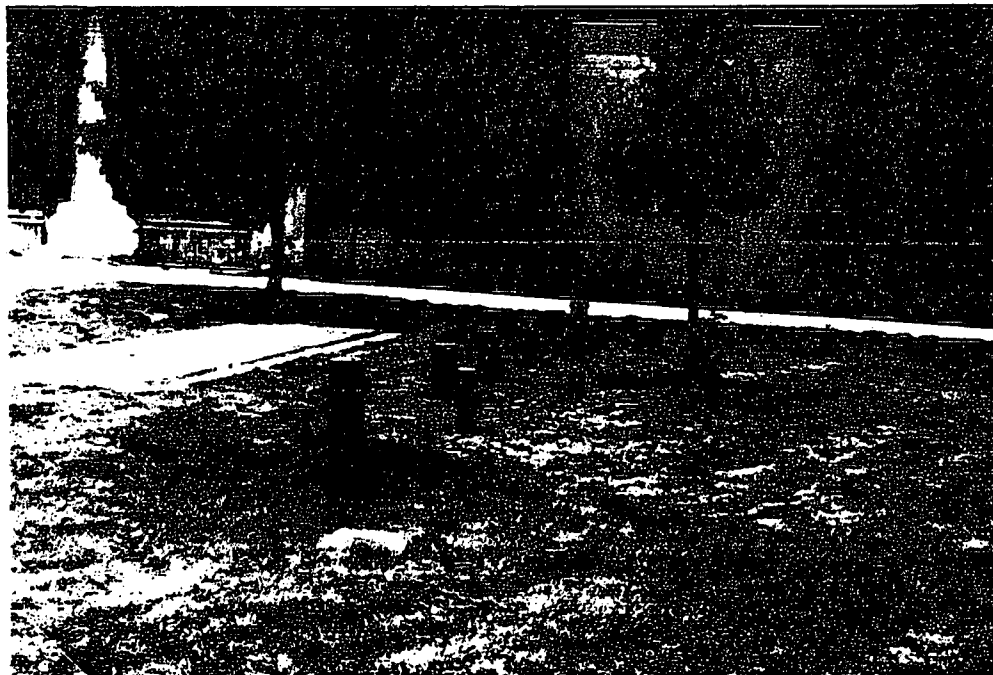
Photograph #23: Discolored soil (red to maroon color) alongside of dirt road between athletic ball field and pumping well T-7 (looking north).



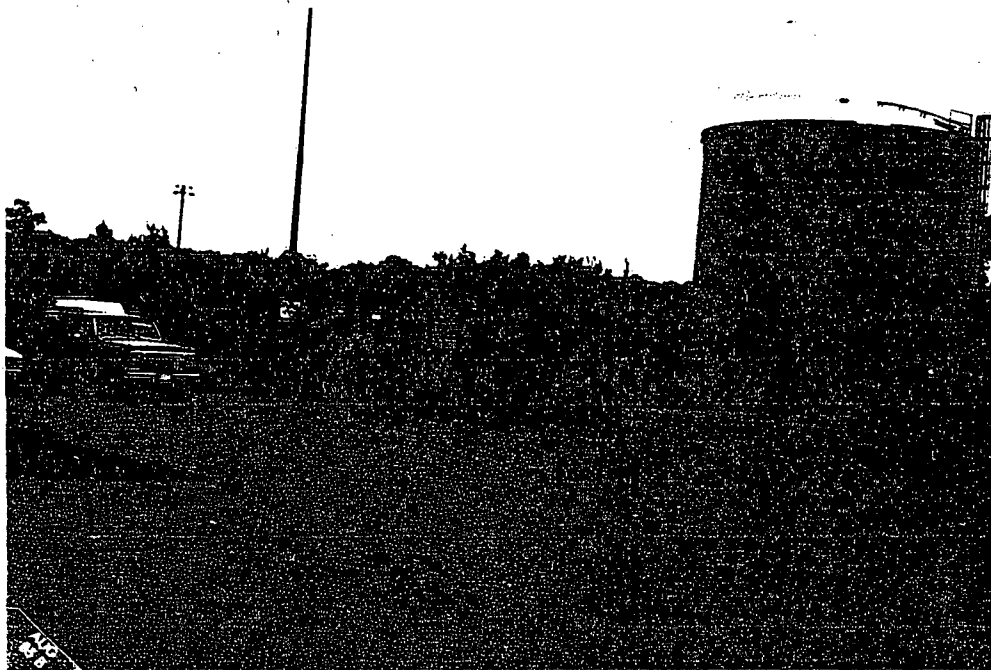
Photograph #24: Trash and refuse, looking northwest from dirt mound surrounding pumping well T-7.



Photograph #25: More trash and refuse looking north/northeast while standing on top of dirt mound surrounding pumping well T-7.



Photograph #26: Pipes leading from separate spill containment underground tanks on northeast side of Building No. 11 near chemical storage area.



Photograph #27: Unsecured 55-gallon drum storage area, behind southeast corner of Building No. 11 (Note: water tank storing water from production wells before being pumped to R.O. facility).



Photograph #28: Building No. 13 (waste storage) at left center, Building No. 11 (chemical storage) at right center (looking towards east).